

Title (en)
Viscosity-controlled processing of a liquid foodstuff

Title (de)
Viskositätsgesteuerte Verarbeitung eines flüssigen Lebensmittels

Title (fr)
Traitement réglé par viscosité d'un aliment liquide

Publication
EP 2574904 A1 20130403 (DE)

Application
EP 12177248 A 20120720

Priority
DE 102011083881 A 20110930

Abstract (en)
Controlling or regulating the processing of a liquid food product, comprises (a) providing data that is obtained by a mathematical modeling depending on the viscosity of liquid food products of the shear rate, (b) measuring the viscosity of the liquid food product to be processed at a predetermined shear rate at one measuring point, and (c) controlling or regulating the processing of the liquid food product to a working device that is downstream of the measuring point in reaction to the viscosity measured at the measuring point and based on of the data. Independent claims are also included for: (1) a controlling or a regulating device for a system for processing a liquid food product, comprising a data storage unit for storing the data obtained from mathematical modeling dependence on the viscosity of the liquid food product on the shear rate, and a control unit for controlling or regulating the processing of the liquid food product, where the viscosity of the food product to be processed, based on the stored data, is measured in response to a shear rate predetermined at a measuring point, which is downstream to a working device; (2) processing device for processing a liquid food product, comprising the measuring point for measuring the viscosity of the liquid food product at a predetermined shear rate of the liquid food product, the working device for processing the liquid food product, where the working device is provided downstream of the measuring point, and the above mentioned controlling or regulating device; and (3) determining the viscosity of the liquid food product in the working device, comprising (i) providing the data, which is obtained by mathematical modeling of the liquid food products depending on the shear rate of the viscosity of the liquid food products, (ii) measuring the viscosity of the liquid food product at a predetermined shear rate of the liquid food product at a measuring point, and (iii) determining the viscosity of the liquid food product at a second shear rate of the liquid food product, which is different from the predetermined shear rate, based on the stored data.

Abstract (de)
Die vorliegende Erfindung betrifft ein Verfahren zur Steuerung oder Regelung der Verarbeitung eines flüssigen Lebensmittelprodukts mit den Schritten Bereitstellen von Daten, die aus einer mathematischen Modellierung der Abhängigkeit der Viskosität flüssiger Lebensmittelprodukte von der Schergeschwindigkeit gewonnen werden, Messen der Viskosität des zu verarbeitenden flüssigen Lebensmittelprodukts bei einer vorbestimmten Schergeschwindigkeit an einer Messstelle und Steuern oder Regeln der Verarbeitung des flüssigen Lebensmittelprodukts an einer Arbeitsvorrichtung stromabwärts der Messstelle in Reaktion auf die an der Messstelle gemessene Viskosität und auf der Grundlage der Daten.

IPC 8 full level
G01N 11/00 (2006.01); **G05D 24/00** (2006.01)

CPC (source: EP US)
A23L 3/003 (2013.01 - EP US); **G01N 11/00** (2013.01 - EP US); **G01N 11/14** (2013.01 - EP US); **G05D 24/02** (2013.01 - EP US); **G01N 2011/0046** (2013.01 - EP US)

Citation (search report)
• [I] WO 9906816 A1 19990211 - MAX PLANCK GESELLSCHAFT [DE], et al
• [I] WO 0157492 A1 20010809 - BOREALIS TECH OY [FI], et al
• [I] US 6343501 B1 20020205 - REGLAT OLIVIER [CA], et al

Cited by
DE102019128324A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

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EP 2574904 A1 20130403; **EP 2574904 B1 20140312**; CN 103105879 A 20130515; DE 102011083881 A1 20130404; US 2013084370 A1 20130404

DOCDB simple family (application)
EP 12177248 A 20120720; CN 201210377575 A 20121008; DE 102011083881 A 20110930; US 201213630764 A 20120928